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ABSTRACT

This paper describes a public/private partnership program designed to provide staff development to help classroom teachers integrate technology in the curriculum by using the train-the-trainer model. The Intel [R] Teach to the Future Project was developed by Intel[R] in collaboration with other public and private sector partners, and has been implemented it in United States and in several other countries. Texas partners include the Telecommunications Infrastructure Fund Board (TIF), the Center for Distance Learning Research at Texas A&M University, and the Texas Center for Educational Technology at the University of North Texas. Texas A&M University and the University of North Texas serve as regional training agencies (RTAs) for the Intel[R] Teach to the Future Project. The program is designed to staff development to help classroom teachers integrate technology throughout the curriculum by using the train-the-trainer model. In 2000 and 2001, nearly 600 Master Teachers (MTs) participated in the training program in Texas. Each MT then provides training for approximately 20 participating teachers in their districts and regions each year for up to 3 years. This research attempts to answer three key questions: How well is this program increasing the effective use of technology in the curriculum? How effective is such a public/private sector partnership in bringing about systemic educational change? How are partners learning to collaborate? (Contains 11 references.) (Author)

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Intel Teach to the Future: A Partnership for Professional Development

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This paper describes a public/private partnership program designed to provide staff development to help classroom teachers integrate technology in the curriculum by using the train-the-trainer model. The Intel Teach to the Future Project was developed by Intel in collaboration with other public and private sector partners, and has been implemented it in United States and in several other countries. Texas partners include the Telecommunications Infrastructure Fund Board (TIF), the Center for Distance Learning Research at Texas A&M University, and the Texas Center for Educational Technology at the University of North Texas.

Texas A&M University and the University of North Texas serve as regional training agencies (RTAs) for the Intel *Teach to the Future* Project. The program is designed to staff development to help classroom teachers integrate technology throughout the curriculum by using the train-the-trainer model. In 2000 and 2001, nearly 600 Master Teachers (MTs) participated in the training program in Texas. Each MT then provides training for approximately 20 participating teachers in their districts and regions each year for up to three years.

This research attempts to answer three key questions:

1) How well is this program increasing the effective use of technology in the curriculum?
2) How effective is such a public/private sector partnership in bringing about systemic educational change?
3) How are partners learning to collaborate?

Theoretical Framework

With the help of state and federal technology funding initiatives most K-12 classrooms now have computer technology and Internet access. According to the National Center for Education Statistics, ninety-eight percent of public schools were connected to the Internet by fall of 2000 (Cattagni and Westat, 2001). In their survey of Texas public schools, Denton,

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Davis and Strader (2001) found that approximately 96 percent of public school classrooms in Texas now have Internet access.

In spite of increased access, only 20 percent of teachers feel prepared to use technology in instruction (National Center for Education Statistics, 1999). For example, Denton, Davis and Strader's survey (2001) found that only 18 percent of districts indicated that their teachers use online resources in instruction. The survey results showed that the greatest need for teachers was in curriculum integration of technology.

Although we have known for years that effective systemic initiatives require sustained, ongoing efforts with proper funding and ongoing support (Joyce and Showers, 1995; Metcalf, 1998; Martinez and Metcalf, 1998), we continue to disregard what research in best practices tells us. That is, as participants learn new skills (technology application) they become acquainted with problems of transfer to their own settings and must have ample opportunity to practice the skills in a controlled and safe environment until a certain degree of confidence and "executive control" is acquired. As they become more familiar with the skill and gain more and more executive control, they require coaching, sustained practice with total immersion in the technology in order to see things differently and change practice.

It is estimated that it takes up to five years to effectively implement technology into the schools and that teachers need to be trained and supported during that period (Office of Educational Technology, 1999). Technology training is often limited to the basics of how to make the equipment work. Training on basic skills is not enough to get teachers using technology in instruction. They need to understand how technology can be used as an integral teaching tool (Southern Regional Education Board, 1995; Metcalf, 1998; Martinez and Metcalf, 1998), and they need to have their concerns regarding technology addressed.

Methods and/or Techniques

Program Description: A staff development program designed to address these concerns is the Intel *Teach to the Future* Project, which was developed by Intel Corporation in collaboration with other public and private sector partners. Over a three-year period beginning in the year 2000, Intel is investing more than $100 million to train more than 400,000 classroom teachers in 20 countries throughout the world. Private sector partners include Microsoft, Hewlett-Packard, and the Bill and Melinda Gates Foundation. Intel has selected a regional training agency (RTA) for each of these regions to recruit teachers and manage program logistics. The RTAs in Texas are the Center for Distance Learning Research at Texas A&M University and the Texas Center for Educational Technology at the University of North Texas.

Program Objectives: There are three main program objectives of the Intel *Teach to the Future* Program (Intel, 2000).

1. Increase the effective use of technology resources in classroom instruction. This is being accomplished by providing training to classroom teachers on strategies for integrating technology resources in instruction. Curriculum modules include the following:
   - Locating resources for your unit.
   - Creating student multimedia presentations.

- Creating student publications.
- Creating teacher support materials.
- Creating student web sites.
- Putting unit plans together.
- Assessing unit plans.

2. Use the train-the-trainer model to reach more classroom teachers.
   - Each year for two years, 100 Master Teachers are selected by each RTA to participate in a five-day training session.
   - Each Master Teacher is to provide 40 hours of training for at least 20 participating teachers in their district, region or consortium each year for two to three years.
   - This curriculum is being aligned with state and national standards.
   - Each Master Teacher receives a stipend for training for participating teachers.

3. Ensure that each participating teacher has the technology equipment and software necessary to implement technology effectively in instruction.
   - Each Master Teacher receives a laptop computer.
   - Each Master Teacher and classroom teacher is authorized to use Microsoft Office and Microsoft Encarta Encyclopedia software.
   - Each district commits to providing a connected classroom PC for each trained classroom teacher. Districts have the opportunity to purchase highly discounted systems for each teacher trained.

Program expansion in Texas: In 2001, Texas A&M University and the University of North Texas obtained the support of the Texas Telecommunications Infrastructure Fund Board (TIF) to expand the program in Texas, which will potentially double the number of teachers participating to a total of nearly 40,000 Texas teachers by the year 2003. Intel agreed to provide senior trainers, curriculum materials, and other resources for the TIF expansion of the program. The TIF expansion also obtained limited support from Microsoft and other partners. The following table shows the approximate number of participating teachers each year in Texas for the original Intel project and the TIF supported expansion.

Year	Approx. number of Texas teachers in original Intel project	Approx. number of Texas teachers in TIF-Intel Project	Approximate total number of Texas teachers
2000	4,000		4,000
2001	8,000	4,000	12,000
2002	8,000	8,000	16,000
2003		8,000	8,000
Total teachers	20,000	20,000	40,000

Data Sources

Program evaluation is ongoing and is being conducted by the RTAs and by an external evaluator. Evaluation includes review of relevant documents, including application forms, selection criteria rubrics, electronic and surface mail correspondence, phone conversations, surveys, participation lists, equipment lists, curriculum documents and student projects. Evaluation also includes interviews with selected teachers, administrators and students, as well as other program partners.

Results/Conclusions

Satisfaction with the program: Evaluation findings of teacher satisfaction with the program are very encouraging, according to results of an online survey conducted by Education Development Center's Center for Children and Technology (CCT). By late October 2001, 1850 Participant Teachers from Texas have responded to the online survey upon completion of their workshops. According to their Likert scale responses:

- 99% would recommend the Intel *Teach to the Future* training to others.
- 98% said that the ideas and skills will help them successfully integrate technology into students' activities.
- 97% indicated that the training provided useful new ideas for teaching strategies to apply with students.
- 95% said that the training prepared them to align teaching and assessment with state learning standards.

Their comments on the online survey were full of superlatives. Many said that this was the best training they have had. Typical comments follow:

- *Awesome training! Every teacher could benefit from this program.*
- *Best technology workshop I have attended.*
- *Excellent! I recommend to every teacher.*
- *Great class! The best teacher workshop I've been to yet.*
- *Excellent training! Excellent trainer! Excellent ideas!*
- *I have attended many workshops and classes on technology. This class was the best taught, most practical, and has the best support notebook! I think all teachers would enjoy and benefit from this training.*
- *I have been teaching for 25 years and this has been by far the best workshop I have ever attended. It was a great learning experience as well as a great resource that I will definitely implement in my classroom immediately.*

The suggestions/criticisms of PTs were primarily in four areas:

1) Offer training in the summer.
   With the many constraints on a teacher's time, this course may be able to be completed in an all day format within a one-week period perhaps during the summer. I also feel that this would be more agreeable to our administrators.

2) Require prerequisite skills.

A prerequisite should be required....I learned so much but was initially frustrated because of my lack of knowledge of basic computer skills. PowerPoint training is a must....Students who don't have PP should not be allowed to take the class.

3) Offer ongoing support and follow-up classes.
I enjoyed the training and was a little sorry when it was over because I was just getting warmed up. There were things I was beginning to discover that I would like to explore more. Maybe there should be Intel Teach to the Future II.

4) Slow down.
I feel that the class was very useful, except it threw so much at you. Then it continued on to another project, which was hard at times to process and keep up.

Needs: We have found that ongoing communication between and among partners is the most overarching need in order to maximize success of the program.

1. The RTAs need to maintain communication with one another and with Intel, and work to bridge the gap between academic and corporate cultures.
2. Master Teachers need ongoing support.
3. The RTAs need to maintain communication with school district administrators to ensure their buy-in and ongoing district and campus level support for the project.
4. Long-term evaluation needs to be conducted to determine how and the extent to which Participant Teachers are actually implementing technology in instruction.

Bridging the gap between academic and corporate cultures: If the Intel *Teach to the Future* Project is to emerge as a successful and sustainable public/private sector partnership model, a number of issues still need to be addressed. The biggest problem areas seem to be defining the roles of the partners, and accommodating the differences between corporate and academic cultures. The negotiation of power has emerged as the major challenge. Power relations have also been found by other studies of collaborative efforts to be the central issue (Metcalf, 1994).

Intel made it clear at the start that Intel program managers would be closely involved at all phases of the project. A problem arose due to the different policies and approaches to hiring, promotions, and raises. The university hiring and promotion system is more cumbersome than in the private sector. It has been very frustrating for Intel that the Texas A&M hiring of full time project personnel has been slow, and that the university has relied heavily on assigning existing staff to the project. A related issue occurred when Intel "rewarded" Texas A&M University for the fine performance of the project coordinator during the first year, and was dismayed to learn that little of the money actually went toward a salary increase for the coordinator. Other ambiguities have resulted from the close working relationship between the university project coordinators and Intel program managers, such as the sense among some university coordinators that they work for Intel. This, in turn, has raised loyalty issues, and ultimately resulted in the resignation of a project coordinator.

There are also different views regarding curriculum materials for training. Intel program management initially required that it be followed faithfully in order to maintain program integrity. But educators tend to modify curriculum materials to suit different teaching and learning styles and meet changing needs. In fact, educators tend to treat curriculum materials as living documents. The integrity of the curriculum especially became an issue with faculty in our colleges of education, as Intel is also supporting program expansion to pre-service teacher education. Intel is loosening up some on their requirement of total adherence to the curriculum.

TIF expansion in Texas has led to more issues. Intel and the university partners initially attempted to make the program "seamless" between the original Intel project and the TIF expansion. However, financial constraints prevent the program from being seamless. TIF expansion has not received the same level of support from Microsoft. Furthermore, Microsoft has replaced MS Office 2000 with MS Office XP and Publisher 2002, which are significantly more expensive (Metcalf, Jolly & Poirot, 2001). This has caused unexpected additional expenses for the TIF expansion. This has also resulted in some discontent among TIF teachers, who have not received the software in the same manner or timeframe as teachers associated with the original Intel project. At the time of this writing, we continue to work through these issues.

Providing ongoing support for Master Teachers: Program staff members at the RTAs have done well in keeping up communication channels with MTs via email and phone conversations. Specifically, the RTAs have provided ongoing support for MTs in addressing challenges they face in their districts, such as scheduling training, recruiting participating teachers, etc. There have been delays in getting needed software to TIF districts, but the communication with MTs has at least reassured them that it is coming. The communication is working. Based on enthusiastic feedback from Texas teachers who participated in Master Teacher training in the year 2000, the program is effective in helping teachers integrate technology across the curriculum.

Another form of support has been extra benefits and recognition. Intel and other private sector partners have provided equipment, software, shirts and other gifts to recognize teachers for their participation in the program. The Gates Foundation sponsors a three-day leadership seminar for Master Teachers, and provides for their lodging and meals at major hotels. In Texas, Intel sponsored mid-year reception for Master Teachers at a hotel in Austin at the time of the annual meeting of the Texas Computer Education Association.

Communication with school district administrators: Sometimes there is a disconnect—especially in large districts—between the Master Teachers and their campus and district administrators. Although teachers and administrators have the some overall goals, their different (and sometimes competing) roles can contribute to the disconnect. Lack of understanding about the program among key administrators has led to lack of needed support for implementation. The communication problems in large districts have led us to believe that administrators need to be involved in all phases of the program in order for them to have ownership in it. The RTAs need to maintain communication with administrators beyond the

initial recruitment phase, and administrators need to participate in the training that occurs in their districts in order to better understand the program. In other words, school districts need to feel they are partners in this ongoing effort.

Long-term evaluation: The first two questions of this research are:
1) How well is this program increasing the effective use of technology in the curriculum?
2) How effective is such a public/private sector partnership in bringing about systemic educational change?

Although the satisfaction level with the Intel training is high among Master Teachers and Participant Teachers, these research questions can only be answered through long-term evaluation involving classroom observations and reports of teachers and students. We need to know how and how often teachers are using technology in instruction. We need to know whether their use of technology is enhancing teaching and learning.

Educational Importance

The Intel *Teach to the Future Project* is an important partnership that has promise for bringing about systemic change in education by combining the resources of public and private sector partners. It will be critical to reflect on and share the lessons learned if this kind of partnership is to be sustained and replicated. It is just as important to share how partners negotiated power relationships and learned to collaborate; as it is to share the lessons learned regarding staff development and technology implementation.

References

Cattagni, A.; Westat, E.F. (2001). *Internet Access in U.S. Public Schools and Classrooms: 1994-2000.* National Center for Education Statistics, Washington, D.C. (NCES 2001-071).

Center for Children and Technology (2001). Online evaluation instrument for Intel *Teach to the Future* Project. Education Development Center, Inc., New York.

Denton, J.; Davis, T.; Strader, A. (2001). *Report of the 2000 Texas Public School Technology Survey Prpared for the Telecommunications Infrastructure Fund Board and Texas Public Schools.* Texas A&M University, College Station, Texas. URL http://eeducation.tamu.edu/TechSurvey2000/reports/

Intel (2000). Connect your teaching to the world: Intel® *Teach to the Future* with support from Microsoft. Intel Corporation.

Martinez, A.; Metcalf, T. (1998). Technology teacher training: Lessons learned. Paper presented at the Adult Education Conference of the American Association for Adult and Continuing Education, November 21, 1998. Phoenix, AZ.

Metcalf, T. (1998). Teacher technology training: Exploring models. Presented at the Fifth Annual Distance Education Conference, January 29, 1998. Austin, TX.

Metcalf, T. (1994). Making sense of collaboration: Perceptions of Participants in a School-University Collaboration. Unpublished dissertation: Texas A&M University, College Station, TX.

Metcalf, T.; Jolly, D.; Poirot, J. 2001). TIF Expansion of the Intel *Teach to the Future* Program: Progress Report, September 15, 2001. Center for Distance Learning Research, Texas A&M University, College Station, TX.

National Center for Educational Statistics (1999). Teacher quality: A report on the preparation and qualifications of public school teachers. U.S. Department of Education. URL http://nces.ed.gov/pubs99/1999080.htm

Office of Educational Technology (1999). Pillar IV: Teachers will be ready to use and teach with technology. The U.S. Department of Education [WWW document]. URL http://www.ed.gov/Technology/pillar4.html

The CEO Forum on Education and Technology (1999). School technology and readiness report. URL http://www.stw.ed.gov/products/1747/99report.pdf

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